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ABSTRACT

The newsletter describes the development of a therapeutic recreation program for the severely and profoundly retarded using a recreational programing hierarchy approach. Sections address the following areas: identifying the habits and habit systems of the retarded individual as they relate to the interactional process of the family system, understanding behaviors of severely and profoundly retarded persons, applying appropriate behavioral systems of control, using a sensory integrative approach, programing for specific skill development, applying behavior therapy learning principles, identifying target behaviors, identifying reinforcers, implementing daily programing and therapy, and establishing a teaching strategy for individual skill development sessions. (SB)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

RECREATIONAL PROGRAMING HIERARCHY WITH SEVERELY AND PROFOUNDLY RETARDED POPULATIONS

by Michael E. Crawford and Ron Mendell

IN THIS ISSUE

Introduction..... 2
Recreational Programing Hierarchy..... 3
An Interactional Process..... 3
Understanding Behaviors of Severely and Profoundly Retarded Persons..... 3
Appropriate Application of Behavioral Systems of Control..... 5
Sensory-Integrative Approach..... 5
Specific Skill Development..... 6
Applying Behavior Therapy Learning Principles..... 7
Behavior Analysis and Identifying Target Behaviors..... 8
Identifying Reinforcers..... 8
Daily Programing and Therapy..... 10
Teaching Strategy for Individual Skill Development Sessions..... 11
Summary..... 13
Selected References..... 14

Michael E. Crawford, Recreation Therapist and Program Director at St. Joseph Hospital, Omaha, Nebraska, and Ron Mendell, a registered therapeutic recreation specialist and Assistant Professor in the Recreation Studies Program at Purdue University, West Lafayette, Indiana, have again joined to produce another practical and valuable publication. Picking up where their previous Practical Pointer--The Assessment Process in Recreation with Severely and Profoundly Retarded Populations (Vol. 2, No. 1, June 1978)--left off, this publication provides methods and approaches by which assessment and diagnostic data can be realistically and successfully applied. Focus of these suggestions and techniques is on meeting special and unique needs of individuals who are severely and profoundly mentally retarded. Gentlemen we applaud your efforts and your talents, and extend sincere thanks and appreciation for your dedication, commitment, and professionalism so aptly reflected in these works.

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INTRODUCTION

The objective of therapeutic recreation service is to utilize recreational activities for planned and purposeful interventions to bring about desired changes in client behaviors and to promote his/her personal growth and development. Recreational activities are perceived as basic functional tools used to achieve stated objectives. Activities are used to move an individual toward given objectives.

Individuals functioning at the severely and profoundly retarded level who are involved in a therapeutic recreation-leisure skills training program should receive an initial assessment including interactional capacity, tolerance to task, levels of social and physical tolerance, attention span, tolerance to physical prompts and hands-on manipulation, fine and large motor deficits or skills, general behavior and affective make-up, ability to initiate interaction, reactions to aggression or stress, expressive and receptive language abilities, unusual problem solving behaviors, and relevant reinforcers. (1) Once this assessment is completed, individual teaching strategies and priority needs should be established taking into consideration any physical or medical limitations that an individual may possess.

Training activities should be selected and developed in areas felt to be readily obtainable and beneficial in striving to raise the individual's personal growth characteristics and traits. This process may be approached through a recreational programming hierarchy.

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[1] See The Assessment Process In Recreation With Severely and Profoundly Retarded Populations, Michael E. Crawford, Norma Sue Griffin, and Ron Mendell, Practical Pointers (Volume 2, No. 1, June 1978) for further discussions and detailed explanations of this initial assessment process.

RECREATIONAL PROGRAMING HIERARCHY

An Interactional Process

Before programing efforts and time line procedures can be established it is necessary to pull significant information from assessment materials and then order this information in terms of individual client needs. Prior to this it is useful to explore further the nature of severely or profoundly retarded individual's condition through an interactional process.

A sociological definition of family states that "...family is a unity of interacting personalities each with a history." No legal, moral, or ethnic restrictions are imposed upon this definition; interacting unity is representative of any diadic or triatic relationship. Behavior of an individual is best understood by understanding the family of which that person is a part. Thus social interaction becomes the basic unit of observation and may be applied to any family situation. With severely or profoundly retarded individuals a family unit might be a group community home, an institutional ward, or the actual family of procreation. Retarded individuals, like all other family members acquire habits and habit systems through the family interactional process. Habits are acquired or learned tendencies to act or respond that eventually form persistant patterns of behavior that become organized into what is called personality.

A majority of severely and profoundly retarded individuals have developed their habits and personalities in institutional family systems. Learned tendencies acquired through habit under an institutional family system are not entirely observable but rather cognitions by which certain behaviors occur. Many observed behaviors seen in severely and profoundly retarded individuals revolve around satisfaction or release of physiological drives or tensions. Through acquired habits response patterns for these drives are often well developed and linked to other people in the environment who become significant. This interactional process can be illustrated schematically as--

Habit Strength	X	Drive	=	Behavior
Cognitive Stimulus and Response		Physiological Need or Tension		Observable Action

The stimulus agent itself--i.e., person, word, environmental event--is non-satisfying in that it merely allows an individual to select a response pattern or behavior with which that individual feels good or is satisfied. Satisfaction within the interaction takes place because of the individual's own actions and responses. The stimulus person or event is indeed important but only because of response patterns he/she is able to release.

Understanding Behaviors of Severely and Profoundly Retarded Persons

In establishing a recreational programing hierarchy for a severely or profoundly retarded individual information about the client's interactional processes and habit systems as related to the individual's behavior problems and/or developmental needs must be evaluated and prioritized. Severely and profoundly retarded persons are often said to have bizarre behavior problems

which no one really seems to understand or comprehend. These are actually complex habit systems. Usually behavior problems occur in ways that are disruptive, abusive, and/or annoying to other members of whatever family unit under which the client operates. Specific behaviors which fit this definition include acting out or disruptive behaviors, striking out, punching, kicking, spitting or other aggressive behaviors, and rumination, masturbation, and other self-stimulatory behaviors.

Often additional behaviors are labeled as problems by untrained or under-educated individuals who come into contact with severely and profoundly retarded persons. These behaviors usually include mannerisms which have developed or have been acquired as a result of physiological and/or intellectual impairments during the developmental period. These developmental disabilities include such behaviors as seizures, perceptual motor impairments, and speech and language impediments. The important element to qualify is that these genuine disabilities, like behavior problems, are interwoven and integral components of the individual's personality and habit system.

Many times a developmental disability sets up a tension or drive that seeks release within the individuals. When the release surfaces it is often mistaken by an untrained eye as a behavior problem. For example, severely and profoundly retarded individuals who experience inefficient or immature vestibular systems as a result of a perceptual motor disability often rock to provide stimulation to the inner ears; an inner drive is fulfilled through a behavioral release. Over a period of years this release becomes an ingrained habit system which holds a great deal of satisfaction for the individual.

For the sake of illustration, suppose that a profoundly retarded client with perceptual-motor deficit causing inner need to rock falls under the care of a treatment team which is highly skilled in behavior modification and correction but possesses little knowledge of perceptual motor disabilities and therapies. When this team views the rocking on an institutional ward or in a community home, quite likely the immediate reaction of individuals untrained in perceptual motor therapy is that rocking is a behavior problem; immediately the team establishes a program to extinguish that bad, self-stimulatory, rocking behavior! For some reason this program does not work. The team modifies its approach; since contingencies must have been of insufficient strength, stronger measures are used in attempts to modify this perceived behavior problem.

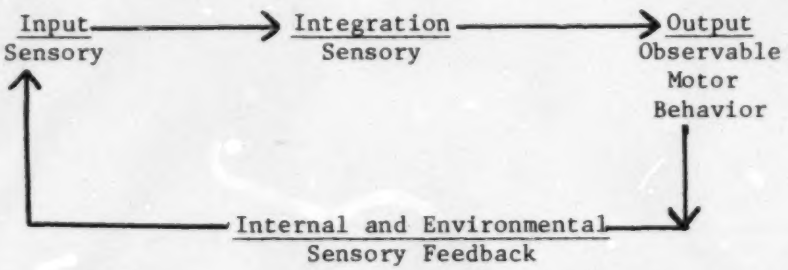
Over a time because of the strength of the habit system connected to the inner drive to rock, the team might even resort to applying negative reinforcers in attempts to stifle this behavior. In the not so recent past it was not unusual for behavior management programs employing use of unpleasant olfactory stimulation such as amonia capsules or use of severe tactile stimlulation such as mild electric shock to be written into such approaches. Not only do such approaches not deal with underlying developmental problems, they also seriously disrupt an individual's habit systems and may create new, truly disruptive habit systems as the individual attempts to cope with the trauma of disrupted habit in the only ways his/her limited interactional qualities allows. This usually can only mean aggression or withdrawal from the environment.

Appropriate Application of Behavioral Systems of Control

Behavioral systems of control or modification work well only when applied appropriately. When misapplied they may result in even further difficulties for individuals they were intended to aid. In the illustrative case, until the perceptual-motor deficit causing the inner need to rock is either satisfied or removed, the client's personality through the established habit system will not accept the personal invasion of behavior modification. In this case, the inner need to rock caused by immature vestibular system can only be removed through an appropriate program of developmental motor therapy dealing with various forms of dynamic and static balance.

If through the assessment process behaviors have been observed which suggest possible motor delay problems or perceptual motor deficits, the first step in a recreational programing hierarchy is to determine extent and effects of these behaviors. Ball skills cannot be taught to someone who rocks six hours a day. A therapeutic recreation specialist might be able to aid a physical or occupational therapist in selecting activities designed to mature the vestibular system and resolve the rocking problem through a program of tumbling, rolling, and scooter play.

As illustrated above, behavioral programs are at times inappropriate in that they may focus on the wrong area, observed motor output only. When dealing with a severely or profoundly retarded individual with suspected motor deficits, other areas must be considered before beginning remediation. The model below illustrates the complete chain of events which occurs for one motor behavior.



As can be seen, sensory input and sensory integration are prerequisites to motor behavior. Sensory problems dealing only with input involve basic auditory, tactile olfactory, and visual sensory abilities. If in addition to severe or profound retardation one or more of the basic sensory abilities are impaired, then by necessity and according to degree of impairment, programing needs, when practical, must be adjusted to enhance deficit sensory areas, or focus may be on training regimes which draw strength from remaining in tack sensory areas.

Sensory-Integrative Approach

However, for many severely and profoundly retarded individuals possessing perceptual-motor deficits, the target area for remediation lies in the sensory-integrative approach to training. A sensory integrative approach to treating perceptual-motor deficits differs from other traditional training procedures for retarded individuals in that it does not emphasize specific skills such as matching visual stimuli or learning to remember sequences of shapes or sounds.

Rather, the objective is to enhance the brain's ability to learn how to do these things. If the brain develops the capacity to perceive, remember, and motor plan, these abilities can be transferred to more specific recreational tasks and other activities regardless of content. The program objective is modification of neurological dysfunction interfering with learning rather than attacking symptoms of dysfunctions.

Once developed a perceptual-motor training program should eventually include components and activities dealing with reflex maturation, dynamic and static balance, body-part identification and perception, body to object perception, movement with visual tracking and control, agility and flexibility, strength and endurance factors, and motor integration. Many physical and occupational therapists are well schooled in sensory integrative motor therapy and may be consulted. In increasing numbers at graduate levels, special educators, psychologists, physical educators, adapted physical education personnel, therapeutic educators, and recreation specialists are receiving training in perceptual-motor dysfunction diagnosis and remediation.

To become a good motor therapist takes years of training, clinical supervision, and experience. Diagnostic and training regimes are quite tedious and rigorous. An individual should not attempt a motor therapy program unless sufficient physical resources and personal skills allow for such intervention. Also of some consideration are time requirements for one-to-one therapy several days a week, week after week, month after month. However, should appropriate conditions exist for such a program, sensory-integrative deficits should be the very first given priority in the programing hierarchy.

Specific Skill Development

Once programing to meet needs of perceptual-motor deficits is addressed a therapeutic recreation specialist may develop the next level in the programing hierarchy. At this level emphasis is on specific skill development and personal growth through active participation in recreational activities and training. Participation in any activity requires utilization of various abilities and skills. However, each activity requires specific combinations or sets of abilities and skills. Thus one element of any given activity is the special character of abilities and skills a person must possess to engage in that activity.

For ease of studying human abilities and skills, scholars have classified them into behavioral domains. Participation in any activity requires utilization of abilities and skills in all three domains--cognitive, sensory-motor, and affective. However, some activities require more skill in one domain and less skill utilization in the other two domains; some activities require skill in two domains and less utilization of the third domain. Some activities require considerable interaction of abilities and skills in all three domains.

With regard to recreational opportunities, it is possible to classify activities in relation to specific abilities and skills grouped by behavioral domains. An even more exacting classification can be undertaken if activities are grouped with respect to which domain is predominant; i.e., primary focus of the activity--intellect, emotion, or movement; sensory perception is assumed in all participation. Often with more severely and profoundly retarded persons there is a tendency to work only in sensory-motor areas with regard to recreational

programing. This is unfortunate as the other major domains--cognitive and affective--readily lend themselves to behavior therapy formats.

For illustrative purposes the following list of skill areas appropriate to training regimes for severely and profoundly retarded persons is offered:

Arts and Crafts
Clay
Cooking
Domestic Skills
Free Play with Objects
Metal/Wood
Outdoor Recreation
Outings/Trips
Paint/Print
Paper Mache/Plaster-Paris
Physical Arts
Pipe Wire Art
Public Dining
Radio
Readiness Skills
Record Player
Refreshments
Sharing
Shopping
Socialization
Social Manners
Television

This is by no means an exhaustive listing of possible activity progressions. It does, however, illustrate to some degree flexibility and diversity one has when planning skill development sessions.

Applying Behavior Therapy Learning Principles

Leisure skills programs should utilize behavior therapy learning principles--e.g., shaping, extinction, and reinforcement contingencies--to promote acquisition of recreation skills in specific goal areas. These programs should be designed to meet needs of low level severely and profoundly retarded individuals. Goal areas should be broken down into objectives and steps. Individual objectives and steps should be broken down through task analysis and forward chained to represent a teaching strategy. The entire focus of the program is to facilitate appropriate and efficient use of specific leisure skills.

Having stated objectives implies that we as professional providers of services know needs of our clients. Although we claim to believe in the uniqueness of each person and his/her needs, frequently individuals within the same diagnostic category have been offered the same activities. Traditionally, activities have been selected in terms of overall needs of individuals within that category. This approach has been perpetuated due to budget limitations, high case loads, untrained staffs, and approaches based on labeling and categorical generalizations.

As therapeutic recreation professionals, we can no longer provide services solely in this manner. Accountability is an issue in our profession as well as in related disciplines. The challenge facing the therapeutic recreation profession today is to demonstrate that prescribed recreation treatment results in planned behavior changes and development. We must be able to measure degrees to which specific programs, certain activities, and various approaches accomplish what written goals and objectives for each individual client stipulate.

Behavior therapy rests on the premise that psychological disorders represent learned behaviors so that principles of learning can be applied to modify these disorders. A behavior therapist applies principles of learning in

treating psychological disorders. These disorders can be roughly classified into two major groupings--deficient behavior and maladaptive behavior. In the former, a client has failed to learn adaptive responses and the therapeutic task is to teach him/her these responses. In the latter, a client makes responses under inappropriate circumstances and must be taught to modify these responses so as to make his/her behavior more adaptive to demands of the environment. In either case, treatment involves learning, unlearning, and relearning; these corrective actions have come to be known as behavior therapy. Behavior therapy demands detailed and intensive assessments of current conditions under which behaviors in question take place or fail to take place; behavior therapy consists of modifying these conditions or a client's reactions to these conditions.

Behavior Analysis and Identifying Target Behaviors

Once appropriate recreational training areas are identified the task of designing appropriate programs must follow. The first step in this process involves behavior analysis and identifying target behaviors.

Before applying principles of behavior modification to change behavior, look at overt behaviors and identify what makes them problem behaviors. A behavior may be considered a problem requiring modification if it falls into one of three catagories--

...occuring in the wrong places (environments);

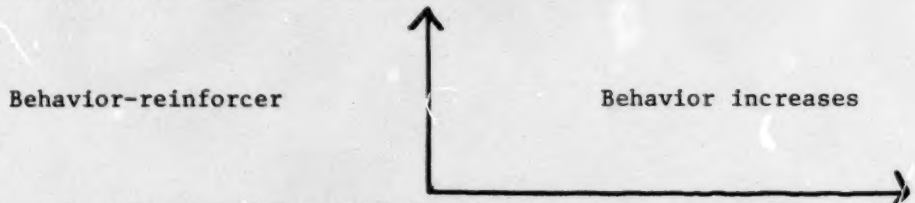
...occuring with too much frequency (too often); and

...occuring at too low a frequency (does not occur often enough).

A target behavior must be identified as an overt behavior, one that may be seen or heard. Target behaviors must be pinpointed in fashions that allow every observer to see or hear the same precise behavior to be measured or recorded. Once a target behavior is identified, the second step in behavior analysis requires identifying reinforcers.

Identifying Reinforcers

Reinforcement is a term describing what occurs immediately after a behavior that increases probability of that behavior occurring again. Therefore, reinforcement always increases behavior. When an overt behavior is followed immediately by a reinforcing consequence, this overt behavior is strengthened and probability of occurrence increased.



Reinforcers are very individual, usually linked in some fashion to his/her habit systems. A reinforcer for one individual may not be a reinforcer for another individual. A reinforcer for a child may not be a reinforcer for an adult. The only way to determine reinforcers for severely and profoundly retarded individuals is to identify what each one likes. This may be done by...

...allowing an individual to choose between different events or objects, and/or,

...observing that with which an individual spends the most time.

After identifying what an individual likes, an object or event may be used as a consequence to an overt behavior. The object or event consequence is a reinforcer for target behavior only if it increases that overt behavior. Reinforcers may be classified as positive or negative. Both positive and negative reinforcers are used to increase probability of an overt behavior occuring.

- Positive reinforcers are events or objects used to increase the frequency of an overt behavior which occurs immediately before a reinforcers is given.

- Negative reinforcers increase behavior just like positive reinforcers. Negative reinforcers differ from positive reinforcers in that a negative reinforcer is presented before an overt behavior occurs and stopped following occurence of that behavior.

Negative reinforcement is often confused with punishment. An example of a negative reinforcer is a sequence that occurs in most homes every morning. An alarm clock rings (negative reinforcing event), you wake up, and turn off the alarm. Turning off of the alarm is the behavior which stops this negative reinforcing event.

Two conditions can represent positive consequences and two represent negative consequences. Positive consequences--

- Present satisfying stimulation (reward) and terminate or avoid noxious stimulation (negative reinforcement).

Negative consequences--

- Present noxious stimulation (punishment) and remove satisfying stimulation (time out from positive reinforcement).

It is thus apparent that when either positive or negative stimulation is to be withdrawn relevant stimulation must already be present. Similarly, positive reinforcement depends on deprivation for its effectiveness. This makes delivery of noxious stimulation (punishment) the only manipulation that can be presented without preparation and regardless of the condition of an organism. For this very reason--ready availability punishment has been widespread and abused by direct care and at times undereducated professional staff of many institutions. Punishment is complex both in effects and current theoretical status in learning research.

Among effects of punishment appear to be a physiological arousal state that can become conditioned to stimuli present when punishment is delivered. These stimuli may be relevant to a particular behavior being punished so that this behavior comes to be avoided or suppressed by incompatible responses. The stimuli may also be relevant to the person delivering noxious stimulation so that this person comes to elicit fear and hence avoidance or escape responses. In addition to these emotional and interpersonal aspects of punishment, there is the consideration that punishment does not actually eliminate a punished behavior but simply leads to suppression of that behavior due to arousal of incompatible emotional responses and their consequences. Punished behavior remains suppressed only so long as conditioned aversive stimuli are present; once these are absent, punished behavior reappears. For this reason, punishment, when used in treatment must be carefully and scientifically applied and paired with positive reinforcement of desirable responses that are incompatible with responses to be weakened.

A phenomenon which permits a wide range of stimuli to serve as reinforcers is that variously called conditioned, secondary, or acquired reinforcement. Almost anything can be made a secondary reinforcer by pairing it with a primary reinforcer such as food or liquid. For example, attention may be called a secondary reinforcer. Generally to gain reinforcing value, attention must be paired with or occur at the same time a primary reinforcer occurs.

With severely and profoundly retarded persons there can be exceptions. In cases of clients whose family systems during personality and habit formation were understaffed back wards of crowded institutions where management techniques were almost exclusively punative and punishing, attention itself can become a very rewarding experience. Even when paired with noxious stimulation there is still attention and thus stimulation to an otherwise bleak environment.

Individuals may be encountered who find punishment a desired event because of stimulation and attention--secondary reinforcement--provided. These individual's habit systems are ingrained with negative attention seeking behaviors in what can be described as survival responses developed long ago in a world that all but ignored their rights to exist. With these individuals an extra step is necessary before beginning programs of positive reinforcement in teaching recreational skills--actually counter-conditioning so that these individuals can enjoy benefits of positive reinforcement. Much of their personalities is geared to seeking negative reinforcement. To change ten, fifteen, or thirty years of personality integration takes time, dedication, and a great deal of consistency--it can be done. Studies by Baer, Ball, Berkowitz, Hillman, Hopkins, Smith, and others (see Selected References, page 14) have indicated that such therapy may take as long as one to three years to be effective but that eventually counter-conditioning towards positive reinforcement can be achieved.

Daily Programing and Therapy

After target behaviors are identified within the three domains--cognitive, affective, and sensory-motor--and after appropriate types and schedules of reinforcement have been determined--including whether or not there is need to counter-condition for positive reinforcement--details of daily programing and therapy must be addressed. These details are facility and service specific, and include such items as staffing ratio, environment, and observation and

recording methods. Some general guidelines may be followed. Staffing in perceptual-motor areas often requires a one or two staff to one client ratio. This is necessitated by need for equipment manipulation, equipment positioning difficulties, and safe spotting. Often two trainers may work with several clients within a single room at the same time. Therapy time often needs to be provided in twenty to thirty minute sessions.

Training environments differ in regard to service specific requirements--i.e., swimming, bowling, gymnasium, arts and crafts room, dance studio, music room camp, mountain ad infinitum. Areas should be bright, well ventilated, and well lighted. Training rooms for individual skill areas such as arts and crafts or fine-motor work should be relatively distraction free. These rooms should not serve dual purposes but be free of all objects except for trainer-client and task oriented materials. This promotes orientation to tasks and provides distraction free environments for productive sessions.

As direct care staff personnel are often utilized for implementing programs, observation and recording sheets should reflect a simple task specific design and not be cluttered with technical jargon, teaching instructions, or reinforcement suggestions. These program needs should be illuminated and staff provided appropriate inservice opportunities before a program is implemented.

If continued resistance in the form of acting out behaviors occurs during skill development training, several options are open for modifying teaching approaches. Some suggested modifications include--

- Non-response--ignore the behavior.
- Counter-condition--challenge the behavior.
- Time-out--change environments.
- Contingency management--manipulate characteristics of the environment.
- Satiation--encourage and aid behavior until the individual tires or becomes bored with it.
- Relaxation techniques or exercises.
- Reduce environmental stimulation--auditory, haptive, visual.
- Modify reinforced contingencies.
- Check your own consistency in applying the teaching strategy.
- Switch to another skill training area if all else fails, perhaps emphasizing another of the behavioral domains--affective, cognitive, sensory-motor.

Teaching Strategy for Individual Skill Development Session

Teaching strategies during individual skill development sessions should utilize different levels of cues and reinforcement.

1. Find out if the client performs behaviors without any cues from you (pretest).

2. If he/she doesn't perform a behavior successfully without any cues, provide a verbal cue.

3. If he/she still doesn't perform the behavior, provide both verbal and visual cues.

4. If he/she still doesn't perform the behavior, provide verbal, visual, and physical cues.

5. If he/she still doesn't perform the behavior, provide verbal, visual, physical cues, and manual guidance.

Once the cue level necessary to elicit a behavior is determined, begin training with appropriate reinforcers. Once the client is performing the behavior correctly, start fading cues--

- Fade manual guidance, if provided.
- Fade physical prompt provided, if any.
- Fade visual cues, if any.
- Fade verbal cues.

Keys--

- Verbal cue - "(client's name) do (activity)."
- Visual cue - modeling.
- Physical cue - hands-on prompting of specific body parts.
- Manual guidance - hands-on manipulation of body parts.

The reinforcement hierarchy should be established in the same manner as the level of cue used.

- Visual praise - establish if the client will work for a smile.
- Verbal praise - is it necessary to add a verbal "good job," "very nice," or the client's name?
- Physical praise - is it necessary to stroke the client on the arm or shoulder, or to give a hug?
- Primary praise - is it necessary to work with edibles?

Once the reinforcement heirarchy is determined and the behavior established, begin to fade level of reinforcement away from primary and physical praise.

SUMMARY

The objective of therapeutic recreation service is to utilize recreational activities for planned and purposeful interventions to bring about desired changes in client behaviors and to promote his/her personal growth and development. Recreational activities are perceived as basic functional tools used to achieve stated objectives. Activities are used to move an individual toward given objectives.

In establishing training programs for severely and profoundly retarded persons, a number of important factors must be considered. When establishing a recreational programing hierarchy a therapist must undertake a comprehensive assessment of each individual. In undertaking this assessment a thorough knowledge of the client's habits and habit systems as they relate to the interactional process of the family system should be acquired. The therapist must answer questions relating to behavior problems and developmental disabilities. A priority must be established for perceptual-motor deficits.

Individual skill development sessions should utilize behavior therapy techniques. All three behavioral domains--cognitive, sensory-motor, and affective--should be reviewed for possible inclusion in the programing hierarchy. This process requires identifying target behaviors and careful selection of reinforcers.

Counter-conditioning towards positive reinforcement due to personality integration towards negative contingencies may slow therapy with a severely or profoundly retarded client. Flexibility in initial selection of the teaching approach and modifying the teaching strategy in sessions may be required. Such modification usually relates to levels of cues and reinforcers.

If a severely or profoundly retarded client is afforded consistency and dedication in approach, tremendous gains in personal characteristics and skills may be attained; a degree of personal freedom can become a reality!

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